



19-25 November 2017 (final version)



IRC

AECOM



University of Colorado **Boulder**

LEARNING VISIT TO UGANDA ON RURAL WATER SUPPLY MAINTENANCE

With participants from the Ministry of Water, Irrigation and Electricity, Afar, SNNPR, UNICEF, Lowland WASH, and IRC WASH, hosted by WHAVE and IRC Uganda on behalf of the Government of Uganda, with inputs by Fundi-Fix, Oxford University and UCB

This report summarises a visit by a team from Ethiopia to learn about innovative rural water supply maintenance models in Uganda. The team visited Kamuli in central Uganda where the service company WHAVE are working with local stakeholders to provide full maintenance services for rural water supply schemes on an insurance basis. In Kabarole, western Uganda, the team visited the Hand Pump Mechanics Association (Kahasa) and schemes rehabilitated and operated on a pay-as-you-fetch basis with the support of IRC. A seminar was also organised during the visit with inputs from Kenya on the Fundi-Fix model and the Water Development Trust Fund. The main objective of the visit was to encourage innovation in maintenance models in Ethiopia and to raise the profile of the importance of asset management in rural water supply. The visit was supported by USAID.

For questions or clarifications on the report and visit please contact IRC Ethiopia: butterworth@ircwash.org
www.ircwash.org/ethiopia

LEARNING VISIT TO UGANDA ON RURAL WATER SUPPLY MAINTENANCE

With participants from the Ministry of Water, Irrigation and Electricity, Afar, SNNPR, UNICEF, Lowland WASH, and IRC WASH, hosted by WHAVE and IRC Uganda with support of the Government of Uganda, and with inputs by Fundi-Fix, Oxford University and University of Colorado at Boulder and funding support by USAID.



Contents

INTRODUCTION.....	1
LEARNING VISIT OBJECTIVES	1
PARTICIPANTS	1
AGENDA	4
SUMMARY OF VISITS, MEETINGS AND DISCUSSION	6
Introduction with the Ministry of Water and Environment, Kampala	6
Whave's full service support to communities in Kamuli, central Uganda	7
Public-private partnership for rural water maintenance in Kenya: Fundi-Fix and the Water Development Trust Fund.....	9
Handpump Mechanics Associations (HPMA) and Pay-as-you-fetch in Kabarole, western Uganda	10
LINKS TO PRESENTATIONS	13

Introduction

There is wider recognition that voluntary committees (WASHCOs) struggle to sustain rural water supplies without strong support. As Ethiopia's stock of rural water supply schemes increases – there are about 220,000 schemes – there is increasing interest in how to ensure effective asset management and the continuity of services. The 2010/11 National WASH Inventory identified high levels of non-functionality as a major concern. A projection (by UNICEF with the Water Sector Working Group) suggested that the entire annual sector budget of USD 500 million (urban and rural) might be spent on maintenance to properly maintain assets. Demand for maintenance services has also been identified as a growth area that could support substantial job creation. Guidelines developed by the Ministry of Water, Irrigation and Electricity (MoWIE) will provide an updated framework for rural (and urban) operations and maintenance (O&M). MoWIE has also established an initiative to set up micro and small enterprises (MSEs) to provide maintenance services and spare parts while creating jobs for youth, unemployed and women.

Uganda's government has also recognized its own challenges in rural water supply sustainability and has taken steps to change the situation. This has included setting up a new division in the Ministry of Water and Environment focused on Infrastructure, Operations and Maintenance, and encouraging the piloting of a range of maintenance models with its development partners.

The learning visit to Uganda was initiated by the USAID Sustainable WASH Systems (SWS) learning partnership and the USAID Lowland WASH Activity to see these maintenance models in action. The SWS learning partnership supports and includes two of the organizations involved in innovation in Uganda: WHAVE and IRC Uganda. The partnership also involves Oxford University and their work with Fundi-Fix and the Water Development Trust Fund in Kenya, who also participated in the visit to share their experiences. Costs of the visit were supported by USAID through these two activities. These two programmes are focused in Ethiopia on improving rural WASH services in Afar and SNNPR (Lowland WASH also work in Somali Region).

Learning visit objectives

The overall objectives of the visit were to:

- Strengthen understanding of key staff, motivate staff with respect to implementing best practice in maintenance and help push maintenance higher up the sector agenda
- Explore strengths and weaknesses of association/job creation approaches to rural water maintenance; identify opportunities to improve these models and potential innovations.
- Explore potential options such as new mechanisms for financing maintenance, and arrangements that shift the incentives towards maintenance.
- Identify national and regional priorities that might be taken up under the MoWIE project on post-construction support units, the USAID SWS Learning Partnership and USAID Lowlands WASH activity, UNICEF's rural WASH programme, and potential follow up activities such as research, workshops or other learning events and pilots.

Participants

The visiting team from Ethiopia was composed of 12 persons from Ethiopia including 8 staff representing government. These government staff have key roles in rural water and MSE development at national level, as well as regional, zonal and woreda level responsibilities in Afar and SNNP regions. Government staff were accompanied by participants from IRC WASH, Lowland WASH and UNICEF. Other participants were from Kenya including two representatives from Fundi-Fix and Oxford University (and the Water Development Trust Fund), and the University of Colorado at Boulder (UCB) who lead the multi-country SWS learning partnership.

Ministry of Water, Irrigation and Electricity / UNICEF



Agash Asmamaw Molla
Rural WASH Technical Advisor (Water supply and Sanitation Directorate)
agash.asmamaw50@gmail.com

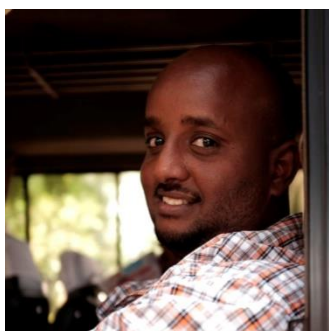


Assefa Gebrewold Teklemariam
MSEs (Micro and Small Enterprises Mainstreaming Unit)
asgebrewold@gmail.com



Haimanot Assefa Getahun
UNICEF
hassefa@unicef.org

Afar



Ephrem Beyene Asfaw
Water Scheme Admin. & supervision process coordinator (Afar RWB)
ephrem76bey@gmail.com



Abdulaziz Musa Abdela
Water Resources administration process owner (Afar RWB)
azizmusa74@icloud.com



Kedir Yesuf Mohammed
Electromechanical expert (Mile Woreda Water Office)

SNNPR



Assefa Tadesse Tediso
Deputy Bureau Head (BoWID)
Assefatad2@gmail.com



Tariku Hailu Mandefro
General Mechanic/O&M (South Omo Zone Water Office)
Tarikuh205@gmail.com



Akiso Woldeyes Esko
Electromechanical expert (S Ari Woreda Water Office)

Other



Scott Short
CoP USAID Lowland WASH (AECOM)



John Butterworth
IRC WASH Ethiopia Country Director



Lemessa Mekonta Nonno
IRC WASH

sshort@lowash.com

butterworth@ircwash.org

mekonta@ircwash.org

Kenya / USA



Rob Hope
Oxford University/ WDTF
robert.hope@ouce.ox.ac.uk



Jacob Katuva
Fundi-Fix Director
jacob.katuva@spc.ox.ac.uk



Liesbet Olaerts
Graduate student, UCB
Liesbet.Olaerts@colorado.edu

Our hosts in Uganda



Peter Magara
IRC Uganda
magara@ircwash.org



Jane Nabunnya
IRC Country Director Uganda
nabunnya@ircwash.org



Adam Harvey
WHAVE
adam.harvey@whave.org



Martin Watsisi
IRC WASH, Kabarole
watsisi@ircwash.org



Joel Mukanga
WHAVE, Kamuli
joel.mukanga@whave.org

Agenda

To learn about the implementation of different maintenance models for rural water services, the visit started with representatives of team travelling to the Ministry of Water and Environment in Kampala for an introduction and discussion on the wider policy context.

The team then visited Kamuli district in central Uganda to learn from the company Whave Solutions which is operating as a service utility in five districts of Uganda. Presentations were made by senior district officials (Water Officer, Resident District Commissioner, Chief Admin Officer), by senior sub-county officials from several sub-counties and by the Hand Pump Mechanics Association (HPMA) chairperson, describing the approach and their involvement in supporting it.

Returning to Kampala, a seminar examined a similar model that has been developed and piloted in Kenya with the support of Oxford University. The company Fundi-Fix provides maintenance services, with subsidy channelled through the Water Development Trust Fund.

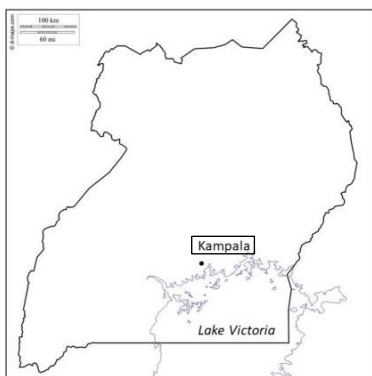
The team then visited Kabarole district in western Uganda where IRC has been working to strengthen the Hand Pump Mechanics Association and has recently started trialling an alternative payment model, Pay-as-you-fetch. This seeks to promote sustainability through increased savings at the WSC level.

Day	Main activities
Day 1 (Sunday 19 Nov)	Travel to Uganda
Day 2	- Meeting at Ministry of Water and Environment with key government officials - Travel to Kamuli District for WASH Public-Private Partnership (PPP) progress orientation hosted by WHAVE: presentation by District and Sub-County Governments, District Water Officer DWO, Hand Pumps Mechanics Association HPMA, Whave staff, on strategy for sustainable WASH services In Kumuli. PPP progress in Kumi and Nakaseke Districts also presented - Community visits in three groups each travelling to one community: - WSC-CBO Registration, Bukyonza LG, Bugulumbya Sub County - WSC Bank Account opening, Kinawampere, Bulopa Sub County - Preventive Maintenance Service agreement, Discussion with community, Buwaya, Bugulumbya Sub County
Day 3	- Debriefing from previous days Community Visits and Orientation - Three groups each travelling to one Sub-County Local Government for PPP progress meetings: - Namwenda sub-county LC III, SAS, CDO - Bulopa sub-county LC III, SAS, CDO, Speaker - Kitunjwa sub-county LC III, SAS, CDO, Speaker - Debriefing from Sub-County Government meetings - Return to Kampala
Day 4	- Seminar on Fundi-Fix model and Water Development Trust Fund from Kenya (Fundi-Fix/ Oxford University) - Travel to Kabarole
Day 5	- Meeting with Kabarole district local government officials, Technical Support Unit 6, Hand Pumps Mechanics Association and other learning alliance members - Field visits to community in 3 groups focused on rehabilitated schemes and the

	pay-as-you-fetch model
Day 6	• Team review meeting • Travel to Kampala
Day 7 Saturday 25 Nov	• Return travel to Ethiopia

Summary of visits, meetings and discussion

Introduction with the Ministry of Water and Environment, Kampala



The 'Community Based Maintenance System' provides the basis for management of rural water supplies in Uganda (with different models in urban areas). A year and a half ago a new Infrastructure, Operations and Maintenance IOM division was established to raise the effort on sustainability in the country. Representatives of the visiting team visited the Ministry of Water and Environment with Jane Nabunnya (IRC Country Director) and met Rural Water Supply Commissioner Joseph Eyatu and the Assistant Commissioner responsible for IOM, Ahmed Sentumbwe. Paul Bisoborwa made a presentation in behalf of the Ministry providing key background for the visit.

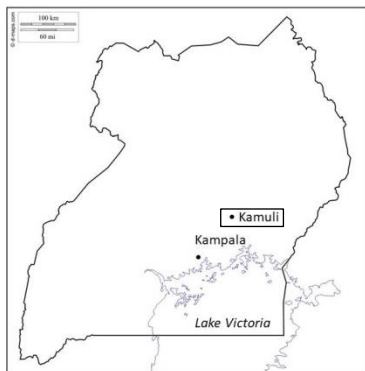
Some main discussion points were:

- The overall strategy has changed with a focus away from handpumps and point sources towards more solar powered and piped schemes, mainly due to water quality concerns.
- Nevertheless, there are many point sources, and functionality remains a critical issue. Overall functionality is 86%.
- Initiatives for functionality underway include those by Whave, IRC, Water for People, Water Missions and JICA.
- The need for preventative maintenance has been specifically recognised, and experimentation has been encouraged.
- The MWE aims to bring together these experiences at a major national meeting on O&M approaches in February 2018.
- Many donors remain rather uninterested in O&M and capacity building support is dwindling.
- The private sector is well enabled by government with all construction and all spare parts supply chains within the private sector.
- There is concern that maintenance alone is not a viable business, and rehabilitation contracts are being used to increase the attractiveness of the sector for business. There is specific provision in government budgets for rehabilitation.

Overall, the MWE team provided by a warm welcome to the delegation, and contacts were established for follow-up.



Whave's full service support to communities in Kamuli, central Uganda



The main technology for rural water supply in Kamuli remains hand dug wells or boreholes fitted with handpumps. These are run by Water Source Committees (WSCs) representing the local community. The company Whave Solutions, came to Kamuli as a prototype service utility offering maintenance services for rural water supply schemes through an insurance type model. Whave provides participating communities with a rapid and high quality maintenance service in return for an annual service fee that covers preventative maintenance, minor and major parts replacements, repairs and rehabilitation.

Whave work closely with local government and support the local Hand Pump Mechanics Associations in providing these services. The strategy is to transform the system and turn around the incentives. Currently government only covers major maintenance (this is over 400,000 shillings or about 110 USD) and expects the communities to handle minor servicing and repairs. However, this means there is no incentive for minor corrective or preventative repairs since the communities can allow a fault to worsen and wait until a big repair is needed then receive technical and financial help.

In Kamuli, Whave is currently active in 8 sub-counties out of the 14 in the district. Participating communities sign a service agreement with Whave and pay an annual service fee. This is partly subsidized. The WSC also needs to be registered as a legal entity with the district and open a bank as a basis for proper accountability and transparency, in order to increase community members' willingness to pay for services. The team explored how these three related processes (agreements, registration and accounts) are managed through visits to communities currently involved in signing an agreement or completing these steps.



Whave is also working to improve the regulatory environment so that local governments, service utilities, local technicians and communities collaborate within a mutually understood public-private partnership framework. In this framework, governments regulate service provision, service utilities provide a service of a quality that merits and stimulates payment by water users, and there is a clear structure for accountability and transparency. Monitoring of water quality and service performance provides a basis for the government to assess the quality of the services provided to communities.

The district and sub-counties both play critical roles. Senior staff from district government and sub-counties, as well as the HPMA chairperson participated in meetings, and presented to the team.

The teams visited three communities to witness certain key activities, such as bank account opening by committees, registration as legal entity by committee, signing of preventive maintenance service agreement by committee

The team also visited three different sub-county offices for further discussions with the senior sub-county senior staff. The presentations and discussions included the following topics:

- The financing of the approach, which aims at full cost recovery from community tariffs, with government using its current budgets to support enabling conditions such as committee registration and banking, monitoring and regulation of service utility activity, installation quality control and provision of indirect services.
- The partnership with HPMA leading to the HPMA becoming a service utility.
- Performance payment of the contracted local technicians, all of whom are members of the HPMA.
- The payment compliance levels achieved so far in three districts, and discussion as the reasons for differences.



Public-private partnership for rural water maintenance in Kenya: Fundi-Fix and the Water Development Trust Fund

Fundi-Fix provide similar insurance-style rural water maintenance services to Whave, but operating in Kenya in Kitui and Kwale Counties. After participating in the Kamuli visit, a seminar was led by the Kenyan and Oxford University participants on the Fundi-fix model and the related Water Development Trust Fund.

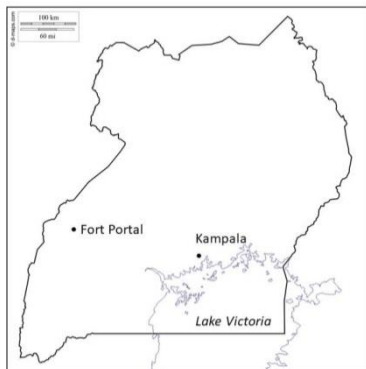
Fundi-Fix provide professional maintenance services offering a rapid response (repairs within 3 days) by local and qualified technicians, and working to performance related contracts. The performance-based contract encourages preventive maintenance. Participating communities sign a service contract and are responsible for regular payments, in this case all made by mobile money. The committees representing water schemes must also register as legal entities with the government and open a bank account.

A key issue that was discussed is financial sustainability. While aiming in the near term for 30%, currently just 15% of the costs of the maintenance services come from community water fees. The rest is subsidized through an innovative mechanism: the Water Development Trust Fund. The Trust Fund provides a mechanism for investment in sustainability. Private investors, such as communities operating in or near the area and with interests in supporting the health of the rural community, provide funds that underpin the whole model. In the future it is also hoped that government will invest in the fund, while donor funding is not considered sustainable and is not targeted. Against agreed KPIs the Trust Fund pays Fundi-Fix according to its performance.

This arrangement is supported by a strong monitoring component, seen as vital to provide a compelling case to investors as well as supporting operations and research. The related research activities are also developing a unique and strong data set that is driving improvements and innovations. Remote monitoring of water schemes using sensors provides a rich data source.

Fundi-Fix face similar challenges to Whave such as attaining scale, willingness to pay of communities, government engagement and financial sustainability. Fundi-Fix are expanding into supporting rural piped schemes in order to further develop the business and revenue base.

Handpump Mechanics Associations (HPMA) and Pay-as-you-fetch in Kabarole, western Uganda



Travelling to Fort Portal in western Uganda, the team had the opportunity to learn about two approaches to innovation in maintenance in Kabarole District: Hand Pumps Mechanics Associations (HPMA) and the Pay-as-you-fetch model.

At a meeting in Fort Portal, political and administrative representatives of the district local government, Technical Unit 6, Kahasa (the HPMA in Kabarole) and IRC staff shared experiences of rural water supply maintenance in the region and the strategies being adopted. In Kabarole there are over 2000 water supply schemes in the district, including boreholes

(44%), shallow wells (these are no longer preferred for new schemes due to water quality risks), springs and some piped systems. Rural water supply coverage is 68%.

Hand Pump Mechanics Associations (HPMA) have been set up in several districts in Uganda. Working within the framework of the Community Based Maintenance System, these are recognised entities (legally registered as a CBO although some have further registered as companies) that can be contracted by government. A framework contract provides for district local governments and sub-county boards (WSSBs) to efficiently procure services from the HPMA. The HPMA provides professional O&M services and regulates the work of its members (e.g. to avoid over-pricing). The members have experience and professional training in repairing water points and piped water schemes, and are nominated by the sub-county. The main focus of the HPMA in practice is on rehabilitation or major repairs and not minor corrective or preventative maintenance. Minor repairs, where undertaken, are done by the WSC who will pay the local HPM.



Handpump mechanics undertake major repairs (above 400,000 Sh) paid by the District Water and Sanitation Conditional Grant (15% is ring fenced for maintenance which is 45 million Sh or roughly 15000 USD, with part routed to sub-counties), Community capital cost contributions (which can be saved by the WSSB at sub-county level for maintenance) and CSOs. Major repairs can take a long time however: up to a year due to lack of financial resources. Sometimes Kahasa gets engaged in constructing new schemes with contractors, and manual drilling. HPMAs support government with other tasks including assessments and monitoring.

Challenges faced by HPMAs include having sufficient capital for operations, limited monitoring and documentation, inadequate support from government and a reluctance to move money down from district to sub-county. The system is considered to work where there is an effective HPM, but there is no focus on improving minor or preventative maintenance. A further identified gap in the system has been in the establishment of spare parts stores by government, and stocking by businesses is now being investigated. Kahasa is also considering expanding into sanitation services such as latrine emptying and FSM, solar powered pumping installations, and managing WASH facilities like public toilets. HPMAs activities are much broader than the name suggests.



Kahasa recently rehabilitated 15 rehabilitated sources (boreholes and a rehabilitated gravity flow scheme) with the support of IRC. A pay-as-you-fetch model is being trialled, building on Water for People experiences in the region, to operate these schemes. This is working to generate more income for the WSC. The idea is that this saving (rather than insurance) model could also provide incentives for the WSCs to invest in repairs including preventative maintenance. With a money-spinning scheme on the doorstep, and high levels of ownership, they have more incentive to keep it running and keep the money flowing. Issues discussed were whether households can afford the 50-100 Sh per jerry can charges, and the potential exclusion of the poorest. The initial results seem promising with communities and sub-county governments enthused about the model.

Key lessons learned and next steps

Reflecting on the visit around Uganda, sharing of experiences from Kenya, and discussing within the team, the participants identified the following main lessons learned from their perspectives.

Group	Key lessons learned
MoWIE/ federal level	- O&M is clearly articulated in policy but this remains a gap in Ethiopia. - Government funds are being ring-fenced for rehabilitation. - Private sector relations are strong. - O&M is technology based with different models being developed.
Afar	- There are high levels of transparency from top to bottom. - The HPMA's are a key innovation with the private sector providing maintenance services and government supporting. - Water sources are well protected (with good quality headworks, markings on scheme, fences, locks, water meters, drainage). - Water sources are being well managed by a caretaker collecting payment.
SNNPR	- Registration of water source committees (WASHCOs in Ethiopia) provides a vital basis for their innovations in maintenance. - There is a strong organizational structure to provide support to communities and associations (e.g. HPMA's). This is at many levels. - No sole emphasis on new construction. - The use of water metering and data can also help us manage waste, money, corruption. - Spare parts enterprises can also be developed through the private sector.
Whave	- The HPMA is very well organized in Kabarole and shows what can be done - There seems to be less exclusion associated with the Pay-as-you-fetch model than previously understood - The clear division of minor and major repairs is critical and we need to work with TSUs on this. General working on governance in this area needs more effort.
IRC	- There are opportunities to work further with IOM to influence sector guidelines. - We need to share our innovation and learning. The February 2018 workshop on O&M in Uganda is a key opportunity. - Preventative maintenance is not yet well addressed in HPMA which is focused on rehabilitation. Pay-as-you-fetch is an opportunity to address.
Lowland WASH	The models we have seen needed geographic focus, dedication and time to develop. Need to start locally, and spread the message.

The following possible actions were also identified:

- To share insights of the visit to encourage colleagues and our organisations to raise the profile and effort on O&M.

- To encourage further and learning exchange within Ethiopia. This could include dialogue with Amhara region (UNICEF led), follow up with COWASH and review of experiences in Tigray and BSG.
- To establish pilots on O & M that include efforts to improve preventative, minor and major maintenance and considering public private partnerships and the role of MSEs with strong support, inspired by the Uganda visit and adapted to the Ethiopian context. Lowland WASH and the SWS learning partnership are committed to supporting pilots in Afar and SNNPR.
- To support sharing and use of new MoWIE O&M guidelines and to seek to influence the next NWP policy and next OWN phase in its actions to support O&M and sustainability.
- To promote more dialogue among key stakeholders on O & M through existing platforms such as the Rural WASH Technical Committee.
- To strengthen efforts to support WASHCO/WUA legalisation and registration.
- To seek further opportunities for learning across the SWS learning partnership involving Kenya, Uganda and Ethiopia, and engaging participants from government and partners such as Lowland WASH and UNICEF. The April meeting of the SWS learning partnership will provide one opportunity for further collaboration (April 24-26, 2018)

IRC will further follow up with participants to review the lessons learned, possible actions and outcomes for the participants, approximately 2-6 weeks after the learning exchange. IRC will also develop a report on rural water maintenance models, including those included in this visit, and would welcome any inputs from the visit partners.

Links to presentations

The following presentations from the visit are available using the link

<https://www.dropbox.com/sh/ii77hoe4v1q2sev/AADl5C7tbgoH-Fo7t94N10IEa?dl=0>:

- MWE
- Kamuli
- Kenya: Fundi-Fix/ Water Development Trust Fund
- Kabarole

Visiting address

Golagul Towers Building
Bole sub city, Woreda 4
House no 275/276
Addis Abeba
Ethiopia

Postal address

P.O. Box 2
Code 1251
Addis Abeba
Ethiopia

ethiopia@ircwash.org
www.ircwash.org/ethiopia